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 (Eds.)

Proceedings of the 4th International Conference on
Informatics & Data-Driven Medicine (IDDM 2021)

Valencia, Spain

November, 2021

This volume represents the proceedings of the 4th International Conference on Informatics & Data-Driven Medicine, held in Valencia, Spain, in November 2021. It comprises 31 contributed papers that were carefully peer-reviewed and selected from 79 submissions.

Preface

We are pleased to present you the proceedings of the 4th International Conference on Informatics & Data-Driven Medicine, held in Valencia, Spain, on November 19-21, 2021.

The main aim of the IDDM conference is a discussion of the recent research results in all areas of Computer Sciences in Medicine, Medical Data Retrieval, Finding the Hidden Associations within the complete set of data, and Intelligent Systems Development.

The Conference is soliciting literature review, survey, and research papers comments including, while not limited to, the following areas of interest:
- Bioinformatics for Healthcare Applications
- Analysis and Prediction for Covid'19 Data
- Big Data and IoT in Medical Applications
- Medical Image Processing
- Deep Learning Models in Healthcare and Biomedicine
- Machine Learning Approaches for Medicine
- IT-enabled Healthcare Services
- Complex Health Monitoring Systems

The Conference joined scientists from Ukraine, Brazil, Egypt, Turkey, Poland, Romania, Germany, the United Kingdom, Slovak Republic, Czech Republic, India, and practicing doctors.

The language of the IDDM Conference is English.

Due to the COVID'2019 pandemic, the IDDM conference took the form of an online presentation of peer-reviewed individual papers.

The Organizing Committee received 79 submissions, 31 accepted for presentation as short and regular papers. These papers were published in this volume of IDDM 2021 proceedings.

The Conference would not have been possible without the support of many people. First, we would like to thank our partners: iCare4Next project and public organization "Ukrainian scientific and educational IT society." We want to thank the Program Chairs, organization staff, the members of the Technical Program Committees, and external reviewers for their excellent and tireless work. We sincerely wish that all attendees benefited scientifically from the Conference and wish them every success in their research. The humble wish of the conference organizers is that the professional dialogue among the researchers, scientists, engineers, and doctors continues beyond the event and that the friendships and collaborations forged will linger and prosper for many years to come.

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Short IDDM history

In 2018, the Department of Artificial Intelligence and the Department of Publishing Information Technologies of Lviv Polytechnic National University organized and successfully conducted an International Workshop on Informatics & Data-Driven Medicine for the first time. The founder team consists of Prof. Nataliia Shakhovska, Dr. Ivan Izonin, Dr. Solomiia Fedushko, and Dr. Nataliia Melnykova. In 2018 and 2019, this Workshop was held in Lviv, Ukraine.

The considered up-to-date tasks, the high quality of the submitted materials, and the capable organization of IDDM Workshops ensured its recognition by such scientometric databases Scopus, Web of Science, and dblp. In addition, the Workshop's success got the possibility to publish its materials on a free open-access publication service at Sun SITE Central Europe, CEUR-WS.org. It allowed making future events free of charge for both speakers and listeners. IDDM-2018 became the first in the Ukraine Workshop indexed by the three of the top scientometric databases.

During these years, the Workshop was supported by the newly established Ukrainian Regional Chapter of an International Neural Network Society and public organization, "Ukrainian Scientific IT Society." Moreover, large IT companies SoftServe, Sigma Software, and Global Logic also supported these Workshops.

The topical issues in Informatics and Medicine areas discussed at the first two Workshops, grown into interest inside the science world. Therefore, it caused an increase in the number of new submissions for the following years. The Program Committee decided to reclassify the event into a Conference in 2020.

The Conference IDDM-2020 was organized and successfully held in Sweden to engage academics, scientists, and practitioners worldwide. Our partners from Linnaeus University provided all the necessary conditions for the Conference at a high level.

The Ranking Advisory Committee of the Computing Research and Education Association of Australasia (CORE Inc.) evaluated three previous events and awarded the IDDM Conference a category C. IDDM-2021 became the first Conference in Ukraine to receive such a high rating from CORE.

The conference IDDM-2021 will be held in Valencia, Spain, with our Polytechnic University of Valencia partners.

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Organizers

Polytechnic University of Valencia, Spain

http://www.upv.es/en/

Lviv Polytechnic National University, Ukraine

http://www.lp.edu.ua/en

Danylo Halytsky Lviv National Medical University, Ukraine

http://meduniv.lviv.ua/

Zaporizhzhia Polytechnic National University, Ukraine

https://zp.edu.ua/

with the support of

The iCare4Next Project

https://lpnu.ua/en/icare4nextg/about-project

Public organization "Ukrainian scientific and educational IT society."

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